

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

Murgitroyd & Company  
373 Scotland Street  
Glasgow G5 8QA  
GRANDE BRETAGNE

PCT

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing  
(day/month/year) 04.09.2001

Applicant's or agent's file reference  
P23538A/JLU/CWA/JAL

**IMPORTANT NOTIFICATION**

International application No.  
PCT/GB00/01785

International filing date (day/month/year)  
15/05/2000

Priority date (day/month/year)  
14/05/1999

Applicant  
DES ENHANCED RECOVERY LIMITED et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

**4. REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/

 European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized officer

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Tel. +49 89 2399-2664




# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P23538A/JLU/CWA/JAL		<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB00/01785	International filing date (day/month/year) 15/05/2000	Priority date (day/month/year) 14/05/1999	
International Patent Classification (IPC) or national classification and IPC E21B33/076			
Applicant DES ENHANCED RECOVERY LIMITED et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input checked="" type="checkbox"/> Certain defects in the international application</li> <li>VIII <input checked="" type="checkbox"/> Certain observations on the international application</li> </ul>			
Date of submission of the demand  07/12/2000		Date of completion of this report  04.09.2001	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer  Georgescu, M  Telephone No. +49 89 2399 7502	



# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P23538A/JLU/CWA/JAL	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB00/01785	International filing date (day/month/year) 15/05/2000	Priority date (day/month/year) 14/05/1999
International Patent Classification (IPC) or national classification and IPC E21B33/076		
Applicant DES ENHANCED RECOVERY LIMITED et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 7 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand  07/12/2000	Date of completion of this report  04.09.2001
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Georgescu, M  Telephone No. +49 89 2399 7502  

Reference is made to the following document:

D1: GB 2 319 795 A

### **I - Basis of the Preliminary Examination Report**

- I-1 This Preliminary Examination Report will not take into account the drawing sheet 2/6 substituted under Rule 26 by the applicant since a check under Rule 26.4 PCT has resulted in that some of the components of the original drawing were omitted in the drawing submitted under Rule 26. This means that the drawing on the replacement sheet contains unallowable amendments and is therefore not considered. Instead, the originally filed drawing sheet 2/6 will be considered during examination.

### **V - Reasoned statement under Article 35(2)**

#### **V-1 Claim 1**

D1, which is considered as the closest prior art, describes a method of recovering production fluids (page 3, lines 11-13) from a well having a tree (31, 41), the tree having a first flowpath (20, 75, 73, 76, 77) and a second flowpath (37), the method comprising diverting fluids (page 8, lines 1-4) from a first portion (75) of the first flowpath to the second flowpath (37) (through 74b, 79, 78, 47).

The distinguishing feature of claim 1 with regard to D1 is that the method comprises "diverting the fluids from the second flowpath back ... the outlet of the first flowpath".

The subject-matter of claim 1 is therefore new and the claim meets the novelty requirements of Art. 33(2)PCT.

No suggestion towards the distinguishing feature of claim 1, or reason for which the skilled man would think to said feature, is to be found in D1 or in any of the other prior art documents, thus said feature would not be obvious for the skilled man. Therefore, claim 1 meets the requirement for inventive step of Art. 33(3)

PCT.

V-2 Claims 2 to 14

Claims 2 to 14 as dependent claims from claim 1 also meet the requirements of Art. 33 PCT.

V-3 Claim 15

Although the method of claim 1 appears to be inventive the apparatus of claim 15 is not new with regard to D1 as it describes:

a flow diverter assembly (74a, 74b, 79, 78, 47) for a tree (31, 41), the assembly comprising flow diverter means (74a closed, 79) to divert fluids from a first portion (20, 75) of the first flowpath (20, 75, 76, 77) to a second flowpath (37), and means (47, 78, 79, 7b closed, 74a open) to divert fluids from the second flowpath (37) back to a second portion (76, 77) of the first flowpath for recovery therefrom via the outlet (77) of the first flowpath.

The subject-matter of claim 15 is therefore not new and the claim does not meet the novelty requirement of Art. 33(2)PCT.

V-4 Claim 16

The feature of claim 16 is also known from D1 (41). Therefore, claim 16 does not meet the requirement for novelty of Art. 33(2) PCT.

V-5 Claim 17

The feature of claim 17 is merely a normal design possibility which does not provide any unexpected technical effect. Therefore, claim 17 does not meet the requirement for inventive step of Art. 33(3) PCT.

V-6 Claims 18 to 20

The feature of claim 18 appears not to be supported by the description as apparently no "conduit for disposal" is described in the application. However, the features of claims 18 to 20 do not appear to involve any inventive activity since it is a normal design possibility to have a "conduit for disposal" with sealing means, which implicitly provides a fluid diverting flowpath, in the flowpaths of a flow diverter assembly. Therefore, claims 18 to 20 do not meet the requirement for inventive step of Art. 33(3) PCT.

V-7 Claim 21

The feature of claim 21 is merely a commonly known design possibility in this technical field. Therefore, claim 21 does not meet the requirement for inventive step of Art. 33(3) PCT.

V-8 Claim 22

The structural feature of claim 22 is known from D1 where is described also a tree (31, 41) with flow diverter means (for example 74a, 79 and 78), the functional feature of claim 22 "to divert production fluids ... from the tree outlet" merely formulates a result to be achieved without providing the structural features needed to define the claimed apparatus. Thus, the aforementioned feature rather underlines the technical problem than to provide the solution needed to acknowledge an inventive step. Therefore, claim 22 does not meet the requirement for inventive step of Art. 33(3) PCT.

**VII - Certain defects**

- VII-1 The independent claims are not properly cast in the two part form, with those features which in combination are part of the closest prior art (D1) being placed in the preamble, contrary to the requirements of Rule 6.3(b) PCT.
- VII-2 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/GB00/01785

- VII-3 In compliance with Rule 10.2 PCT the term "production" should have been added on lines 4, 6, and 8 of claim 1 before the word "fluids".
- VII-4 Claim 4 should have been formulated as depending from previous claims in alternative only (Rule 6.4(a)) by replacing "and" with "or".
- VII-5 Contrary to the requirements of Rule 5.1(a)(ii)PCT, the relevant background art disclosed in document D1 is not mentioned in the description, nor is this document identified therein.

**VIII - Certain observations (clarity)**

- VIII-1 Claim 18 is defined by means of a functional feature "conduit for disposal" which appear not to be supported by the description contrary to the requirement of Art. 6 PCT. The aforementioned feature does not allow to clearly define the scope for which protection is sought.

Reference is made to the following document:

D1: GB 2 319 795 A

## **I - Basis of the Opinion**

I-1 This Written Opinion will not take into account the drawing sheet 2/6 substituted under Rule 26 by the applicant since a check under Rule 26.4 PCT has resulted in that those components of the original drawing indicated in yellow in the enclosure of this Opinion were omitted in the drawing submitted under Rule 26. This means that the drawing on the replacement sheet contains unallowable amendments and is therefore not considered. Instead, the originally filed drawing sheet 2/6 will be considered during examination.

## **V - Reasoned statement under Rule 66.2 (a)(ii)**

V-1 Claim 1

D1, which is considered as the closest prior art, describes a method of recovering production fluids (page 3, lines 11-13) from a well having a tree (31, 41), the tree having a first flowpath (20, 75, 73, 76, 77) and a second flowpath (37), the method comprising diverting fluids (page 8, lines 1-4) from a first portion (75) of the first flowpath to the second flowpath (37) (through 74b, 79, 78, 47).

The distinguishing feature of claim 1 with regard to D1 is that the method comprises "diverting the fluids from the second flowpath back ... the outlet of the first flowpath".

The subject-matter of claim 1 is therefore new and the claim meets the novelty requirements of Art. 33(2)PCT.

No suggestion towards the distinguishing feature of claim 1, or reason for which the skilled man would think to said feature, is to be found in D1 or in any of the other prior art documents, thus said feature would not be obvious for the skilled man. Therefore, claim 1 meets the requirement for inventive step of Art. 33(3)



PCT.

V-2 Claims 2 to 14

Claims 2 to 14 as dependent claims from claim 1 also meet the requirements of Art. 33 PCT.

V-3 Claim 15

Although the method of claim 1 appears to be inventive the applicant should be aware that the apparatus of claim 15 is not new with regard to D1 as it describes:

a flow diverter assembly (74a, 74b, 79, 78, 47) for a tree (31, 41), the assembly comprising flow diverter means (74a closed, 79) to divert fluids from a first portion (20, 75) of the first flowpath (20, 75, 76, 77) to a second flowpath (37), and means (47, 78, 79, 7b closed, 74a open) to divert fluids from the second flowpath (37) back to a second portion (76, 77) of the first flowpath for recovery therefrom via the outlet (77) of the first flowpath.

The subject-matter of claim 15 is therefore not new and the claim does not meet the novelty requirement of Art. 33(2)PCT.

V-4 Claim 16

The feature of claim 16 is also known from D1 (41). Therefore, claim 16 does not meet the requirement for novelty of Art. 33(2) PCT.

V-5 Claim 17

The feature of claim 17 is merely a normal design possibility which does not provide any unexpected technical effect. Therefore, claim 17 does not meet the requirement for inventive step of Art. 33(3) PCT.

V-6 Claims 18 to 20

The feature of claim 18 appears not to be supported by the description as apparently no "conduit for disposal" is described in the application. However, the features of claims 18 to 20 do not appear to involve any inventive activity since it is a normal design possibility to have a "conduit for disposal" with sealing means, which implicitly provides a fluid diverting flowpath, in the flowpaths of a flow diverter assembly. Therefore, claims 18 to 20 do not meet the requirement for inventive step of Art. 33(3) PCT.

V-7 Claim 21

The feature of claim 21 is merely a commonly known design possibility in this technical field. Therefore, claim 21 does not meet the requirement for inventive step of Art. 33(3) PCT.

V-8 Claim 22

The structural feature of claim 22 is known from D1 where is described also a tree (31, 41) with flow diverter means (for example 74a, 79 and 78), the functional feature of claim 22 "to divert production fluids ... from the tree outlet" merely formulates a result to be achieved without providing the structural features needed to define the claimed apparatus. Thus, the aforementioned feature rather underlines the technical problem than to provide the solution needed to acknowledge an inventive step. Therefore, claim 22 does not meet the requirement for inventive step of Art. 33(3) PCT.

**VII - Certain defects**

- VII-1 If the applicant files amended claims 15 and 22, his attention is drawn to the fact that they should be properly casted in two part form with regard to D1, according to Rule 6.3(b) PCT.

- VII-2 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
- VII-3 In compliance with Rule 10.2 PCT the term "production should be added on lines 4, 6, and 8 of claim 1 before the word "fluids".
- VII-4 Claim 4 should be formulated as depending from previous claims in alternative only (Rule 6.4(a)) by replacing "and" with "or".
- VII-5 Contrary to the requirements of Rule 5.1(a)(ii)PCT, the relevant background art disclosed in document D1 is not mentioned in the description, nor is this document identified therein.

**VIII - Certain observations (clarity)**

- VIII-1 Claim 18 is defined by means of a functional feature "conduit for disposal" which appear not to be supported by the description contrary to the requirement of Art. 6 PCT. The aforementioned feature does not allow to clearly define the scope for which protection is sought.

# PATENT COOPERATION TREATY

From the:  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

Murgitroyd & Company  
373 Scotland Street  
Glasgow G5 8QA  
GRANDE BRETAGNE

# PCT

## WRITTEN OPINION

(PCT Rule 66)

Date of mailing (day/month/year) 06.03.2001	
Applicant's or agent's file reference P23538A/JLU/CWA/JAL	<b>REPLY DUE</b> <b>within 3 month(s)</b> from the above date of mailing
International application No. PCT/GB00/01785	International filing date (day/month/year) 15/05/2000
Priority date (day/month/year) 14/05/1999	
International Patent Classification (IPC) or both national classification and IPC E21B33/076	
Applicant DES ENHANCED RECOVERY LIMITED et al.	


1. This written opinion is the **first** drawn up by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:
  - I    ☒ Basis of the opinion
  - II   ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV   ☐ Lack of unity of invention
  - V    ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI   ☐ Certain document cited
  - VII ☒ Certain defects in the international application
  - VIII ☒ Certain observations on the international application
3. The applicant is hereby **invited to reply** to this opinion.
 

**When?**      See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

**How?**        By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

**Also:**        For an additional opportunity to submit amendments, see Rule 66.4.  
                   For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.  
                   For an informal communication with the examiner, see Rule 66.6.

**If no reply is filed**, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 14/09/2001.

Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer / Examiner Georgescu, M Formalities officer (incl. extension of time limits) Buckley, D Telephone No. +49 89 2399 2082
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**I. Basis of the opinion**

1. This opinion has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".*):

**Description, pages:**

1-15 as originally filed

**Claims, No.:**

1-22 as originally filed

**Drawings, sheets:**

1/6-6/6 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

☐ the drawings, sheets:

5. ☒ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

**see separate sheet**

6. Additional observations, if necessary:

**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N) Claims 15, 16

Inventive step (IS) Claims 15-22

Industrial applicability (IA) Claims

2. Citations and explanations

**see separate sheet**

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 00/01785

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 E21B33/076 E21B34/04 E21B33/035

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E21B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 2 319 795 A (VETCO GRAY INC ABB) 3 June 1998 (1998-06-03) the whole document ---	1, 15, 22
A	GB 2 197 675 A (BRITISH PETROLEUM CO PLC) 25 May 1988 (1988-05-25) the whole document ---	1, 15, 22
A	US 5 143 158 A (DEBERRY BLAKE T ET AL) 1 September 1992 (1992-09-01) abstract; figures ---	1, 15, 22
A	EP 0 841 464 A (COOPER CAMERON CORP) 13 May 1998 (1998-05-13) ---	
A	US 4 874 008 A (LAWSON JOHN E) 17 October 1989 (1989-10-17) ---	
	-/--	



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

20 July 2000

Date of mailing of the international search report

28/07/2000

Name and mailing address of the ISA

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Authorized officer

Fonseca Fernandez, H

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 00/01785

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 4 260 022 A (VAN BILDERBEEK BERNARD H)  7 April 1981 (1981-04-07)  -----</p>	



# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 00/01785

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2319795 A	03-06-1998	US 5971077 A	26-10-1999
GB 2197675 A	25-05-1988	NONE	
US 5143158 A	01-09-1992	GB 2243383 A,B	30-10-1991
		GB 2275952 A,B	14-09-1994
		NO 905243 A	28-10-1991
		SG 9590371 A	18-08-1995
		SG 9590372 A	18-08-1995
EP 0841464 A	13-05-1998	US 5377762 A	03-01-1995
		AU 670476 B	18-07-1996
		AU 5483794 A	11-08-1994
		BR 9400466 A	27-09-1994
		CA 2114784 A	10-08-1994
		DE 69418234 D	10-06-1999
		DE 841464 T	24-09-1998
		EP 0611085 A	17-08-1994
		SG 43095 A	17-10-1997
US 4874008 A	17-10-1989	NONE	
US 4260022 A	07-04-1981	NONE	